

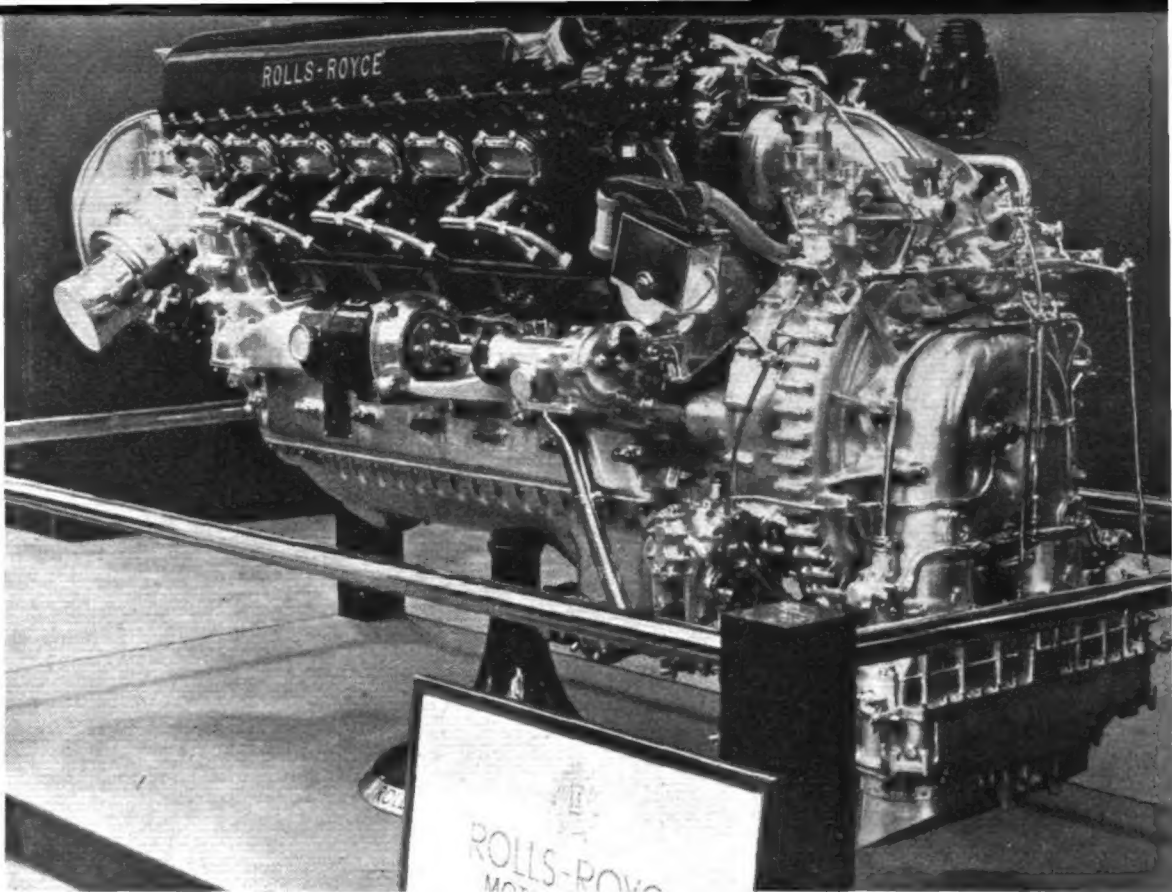
The two-speed supercharged Rolls-Royce Merlin X—probably the most admired liquid-cooled unit in the whole show.

*Important Advances
in All Types of Units
at the Paris Salon :
Britain's Usual Show
of Excellence : A
2,000 h.p. Hispano*

THE real value of "trends" which are often assumed to be indicated by exhibits in the Paris Salon is frequently questionable. Particularly is this true of the aero engines. So many initially promising prototype power plants appear in modified form year after year on the stands of their manufacturers but never in actual aircraft, and the number which achieve widespread adoption is very small even compared with the number of prototype aircraft which find their way into general use. Nevertheless, we can ill afford to ignore any new unit, however unorthodox it may seem in comparison with established types, for engine development still runs in very diverse channels and a seemingly fantastic novelty may have a definite effect on future design. By way of example, the Napier-Halford Dagger with its

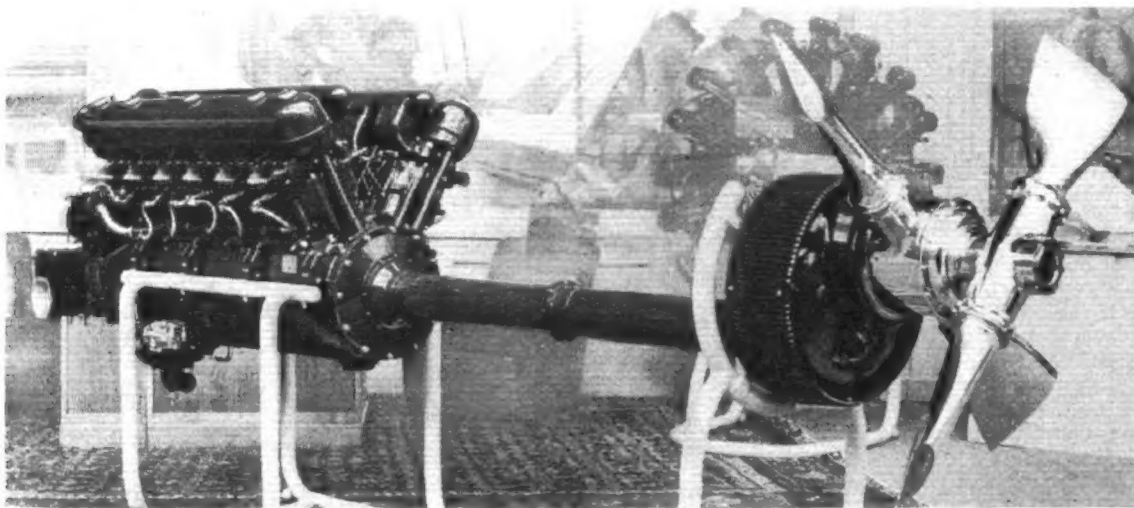
development of air-cooled units from the little four-in-line to the massive two-row radials and other multi-bank types, the liquid-cooled camp is not only holding its own but making up much of the leeway it has lost in certain directions during post-war years.

With the increase in size of commercial machines, the liquid-



"Flight" photograph.

SOME TRENDS IN ENGINE DESIGN



"Flight" photograph.

(Left) The latest version of the Lorraine Stern with extension shaft and oppositely rotating airscrews. This combination has been fitted in the Koolhoven F.K.55 fighter.

(Below)
The installation of two Daimler Benz D.B.600 inverted vees in a Heinkel bomber of the German Air Force. An engine of this type is exhibited at Paris.

twenty-four tiny cylinders in H formation and its high operational speed would have occasioned a good deal of cynicism when it was shown for the first time (even with the name of Napier behind it) had it not been developed to an advanced stage of refinement and reliability and subjected to official test before being publicly announced.

This year, the only startling departure from conventional design among the bigger units is the 2,000 h.p. Hispano Suiza, though there are many units (notably British) which, although developed directly from types which have appeared before, are virtually new designs in that they open up fresh possibilities in aircraft development. The best examples this year are those engines equipped with two- or three-speed superchargers or developed for operation on 100-octane fuel.

Despite the ingenuity displayed in the de-

